

Amendments to the Claims

- Claim 1. (withdrawn): A metal material as laser marked by a thermally activated, chemically based marking method comprising the steps of: applying a layer of mixed metal oxide material containing an energy absorbing enhancer to a metal substrate; and irradiating said layer with a radiant energy beam having a wavelength selected to excite the energy absorbing enhancer in accordance with the form of a marking to be applied, thereby forming a marking layer atop the substrate.
- Claim 2. (withdrawn): A substrate material as laser marked by a thermally activated chemically based marking method comprising the steps of: applying a layer of mixed metal oxide material containing an energy absorbing enhancer to a substrate selected from the group consisting of aluminum, brass, chrome, copper, nickel, steel, stainless steel, tin, glass, ceramic, porcelain, and plastic; and irradiating said layer with a radiant energy beam having a wavelength selected to excite the energy absorbing enhancer in accordance with the form of a marking to be applied, thereby forming a marking layer atop the substrate.
- Claim 3. (withdrawn): A substrate material as laser marked by a thermally activated chemically based marking method comprising the steps of: applying a layer of mixed metal oxide material containing an energy absorbing enhancer to a substrate to be marked in the form of a marking to be applied; and irradiating said layer with a radiant energy beam having a wavelength selected to excite the energy absorbing enhancer, thereby forming a marking layer atop the substrate.
- Claim 4. (currently amended): A thermally activated, chemically based marking method comprising the steps of: applying a layer of mixed organic pigment material containing an energy absorbing enhancer to a plastic substrate; and irradiating said layer with a radiant energy beam having a wavelength selected to excite the energy absorbing enhancer in accordance with the form of a marking to be applied, thereby forming a marking layer atop the substrate, the radiant energy beam comprising a laser beam having an energy level ranging between 1 and 30 watts, a spot size ranging between 5 and 200 microns, and a marking speed along the substrate ranging between 25 and 100 mm/sec.
- Claim 5. (original): The method of claim 4 further comprising the step of providing a laminar air flow across the substrate during the irradiating step.
- Claim 6. (original): The method of claim 4, wherein the energy absorbing enhancer further comprises carbon black.
- Claim 7. (canceled)

- Claim 8. (original) The method of claim 4, wherein the layer of mixed organic pigment material further comprises a thickness ranging between 5 and 500 microns.
- Claim 9. (original) The method of claim 4 further comprising the step of starting at a room temperature of about 70.degree. F.
- Claim 10. (withdrawn): A plastic material as laser marked by the process according to claim 4.
- Claim 11. (original): A thermally activated chemically based marking method comprising the steps of: applying a mixed organic pigment material containing an energy absorbing enhancer to a carrier; placing the carrier in contact with the substrate to be marked; and irradiating the carrier with a radiant energy beam having a wavelength selected to excite the energy absorbing enhancer in accordance with the form of a marking to be applied, thereby forming a marking layer atop the substrate.
- Claim 12. (original): A thermally activated chemically based marking method comprising the steps of: applying a layer of mixed organic pigment material containing an energy absorbing enhancer to a substrate to be marked in the form of a marking to be applied; and irradiating said layer with a radiant energy beam having a wavelength selected to excite the energy absorbing enhancer, thereby forming a marking layer atop the substrate, the radiant energy beam comprising a laser beam having an energy level ranging between 1 and 30 watts and a marking speed along the substrate ranging between 25 and 1000 mm/sec.
- Claim 13. (original): The method of claim 12 further comprising the step of providing a laminar air flow across the substrate during the irradiating step.
- Claim 14. (original): The method of claim 12, wherein the energy absorbing enhancer further comprises carbon black.
- Claim 15. (canceled)
- Claim 16. (original): The method of claim 12, wherein the layer of mixed organic pigment material further comprises a thickness ranging between 5 and 500 microns.
- Claim 17. (original): The method of claim 12 further comprising the step of starting at a room temperature of about 70.degree. F.
- Claim 18. (withdrawn): A glass material as laser marked by the process according to claim 12.
- Claim 19. (canceled)
- Claim 20. (original): A thermally activated chemically based marking method comprising steps of: applying a material comprising an energy absorbing organic pigment to a carrier; placing the carrier in contact with the substrate to be marked; and irradiating the carrier with a radiant energy beam having a wavelength selected to

excite the energy absorbing enhancing component in accordance with the form of a marking to be applied, thereby forming a marking layer atop the substrate.

Claim 21. (original): A thermally activated chemically-based marking method comprising steps of: applying a material comprising an organic pigment and an energy absorbing enhancing component to a carrier; placing the carrier in contact with the substrate to be marked; and irradiating the carrier with a radiant energy beam having a wavelength selected to excite the energy absorbing enhancing component in accordance with the form of a marking to be applied, thereby forming a marking layer atop the substrate.

Claim 22. (canceled)

Claim 23. (canceled)

Claim 24. (canceled)

Claim 25. (canceled)